

REMARKS

Claim 33 has been amended in accordance with the Examiner's comments to correct a typographical error. Claim 19 has been rewritten in independent form and amended to clarify the sealing means. Claims 18, 30 and 36 have been cancelled without prejudice and the dependency of claims 20 and 21 amended to depend from claim 19 in view of the cancellation of claim 18. No new matter is believed to be added by way of this amendment.

Objection to the Drawings:

The Examiner noted that the drawings must show every feature specified in the claims and required a proposed drawing correction to show "the member being coupled to the first duct by a hinge" or that that feature be cancelled from the claims. Claims 30 and 36, which recite "wherein said member is coupled to said first duct by a hinge" have been cancelled without prejudice.

Objection to claims 27 and 33:

Regarding claim 33, "said the groove" was changed to "said groove" in accordance with the Examiner's request and to correct an obvious typographical error without narrowing the claim. Regarding clarification of claim 27, claim 27 provides in part "so that when said first duct is inserted into said second duct and said member is in said groove a seal and a resistance to a separation of said first duct and said second duct ...is provided by said member and said groove." Accordingly, a seal and a resistance to a separation are provided by said member and said groove.

Rejections under 35 U.S.C. §102:

Claims 1-23, 25, 27-29, 31-35 and 37 were rejected under 35 U.S.C. §102(b) as being anticipated by Silverman, et al. (US 3,290,770). Applicant requests withdrawal of this rejection.

Regarding claims 1, 7 and 13, the Examiner advanced that Silverman disclosed a flexible

seal and locking mechanism and referred to elements 117 or 118, which appear in FIG. 10(c).

Silverman discloses a method of simultaneously deforming two overlapping tubular metal elements to form interlocking ridges. According to the invention, a pressure sealing contact is obtained by overlapping two elements and explosively driving one element into intimate contact with the other element. An anvil or ring is placed between the overlapping elements to deform the overlapping elements during the explosion and form interlocking ridges in the mating surfaces.

Silverman, however, does not disclose or suggest that O-rings 116 and 118 (FIG. 10(c)) are “flexible,” let alone a “flexible seal and locking mechanism retained on said male end of said first duct” as set forth in applicant’s independent claims 1 and 13 or a “flexible seal and locking mechanism retained within said female end of said first duct” as set forth in independent claim 7. In the embodiment illustrated in FIG. 10(c), Silverman discloses overlapping two elements and placing O-rings 117 and 118 therebetween. When the overlapping elements are explosively driven together, the O-rings plastically deform the elements and form interlocking ridges in the mating surfaces.

Regarding claim 18, claim 18 has been cancelled and incorporated into claim 19, which has been rewritten into independent form. Accordingly, the following discussion is made with respect to independent claim 19.

The Examiner advanced that Silverman discloses means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is inserted into a portion of the second duct. In Silverman, it is after the elements are placed in overlapping orientation that Silverman actuates an explosion to interlock the overlapping elements. Therefore, with respect to claim 19, Silverman does not disclose means for providing a seal and a mechanical connection when the portion of the first duct is inserted into a portion of the second duct.

Regarding claims 27 and 32, since Silverman seals the overlapping elements with an explosive force after one element is inserted into the other, Silverman does not disclose a first duct and second duct as set forth in claims 27 and 32 so that when said first duct is inserted into said second duct and said member is in said groove a seal and a resistance to a separation of said

first duct and said second duct greater than a resistance to the insertion of said first duct into said second duct is provided by said member and said groove.

The remaining claims depend from one of the above independent claims and are allowable for reasons provided above as well as for containing subject matter not disclosed or suggested in Silverman.

Claims 1-4, 6, 13, 14 and 16-22 were rejected under 35 U.S.C. §102(b) as being anticipated by Joslin (US 3,208,136). Applicant requests withdrawal of this rejection.

Joslin discloses a method of joining pipe where one pipe having an annular groove is inserted into a second pipe using a hydraulic ram. A liquid sealant is placed in the annular groove to act as lubricant at the time the joint is formed and later hardens to form a sealant. The pipe having the annular groove is further hydraulically rammed into the second pipe so that it buckles upwardly in the region of the annular groove and deforms the second pipe to secure the pipes together.

Regarding claim 1, the Examiner advanced that Joslin discloses a flexible seal and locking mechanism (28) retained on the male end of the first duct after insertion. However, Joslin's seal is not a flexible seal. Sealant 28 is applied as a liquid lubricant and later hardens to form a seal. Joslin does not disclose or suggest that sealant 28 is flexible after it hardens.

Regarding claim 13, the Examiner advanced that Joslin discloses a flexible seal and locking mechanism retained on the male end of the first duct, and a flexible duct that may be joined to the first duct by sliding the flexible duct over the flexible seal and locking mechanism. Applicant respectfully disagrees. Nowhere does Joslin disclose or suggest using a "flexible" duct. Applicant further notes that Joslin's duct is selected to deform when subjected to a hydraulic ram.

Regarding claim 18, which has been incorporated into claim 19, the Examiner advanced that Joslin discloses an apparatus comprising means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is inserted into a portion of the second duct. Since it is after insertion that sealant 28 hardens to form a seal, Joslin does not disclose or suggest means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is

inserted into a portion of the second duct. Further, claim 19 recites that the second duct has a raised bead into which the means is seated and Joslin does have such a bead. Bell 14 as shown in FIG. 1 is not such a bead.

The remaining claims depend from one of the above independent claims and are allowable for reasons provided above as well as for containing subject matter not disclosed or suggested in Joslin.

Claims 13, 14, and 17-22 were rejected under 35 U.S.C. §102(b) as being anticipated by Beyer (US 2,693,378). Applicant requests withdrawal of this rejection.

Regarding claim 13, the Examiner advanced that Beyer discloses a first duct (12, 23), a flexible seal and locking mechanism (15) retained on the male end of the first duct, and a flexible duct (10, 11). Applicant respectfully disagrees. Nowhere does Beyer disclose or suggest that elements 10 or 11 are flexible. Further, Beyer does not disclose or suggest that gasket 15 expands within a flexible duct to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and flexible duct greater than a resistance to the joining of the first duct and the flexible duct. For example, Beyer does not disclose that gasket 15 provides a duct separation resistance that is different from the duct joining resistance. Further, there is no motivation founded in Beyer that would suggest one to construct gasket 15 to provide a separation resistance greater than the joining resistance.

Regarding claim 18, which has been cancelled and incorporated into independent claim 19, the Examiner advanced that Beyer discloses an apparatus comprising means for providing a seal and a mechanical connection between the first and second duct when the portion of the first duct is inserted into the second duct. However, Beyer does not disclose or suggest an apparatus comprising a first duct, a second duct and means for providing a seal and a mechanical connection between the first duct and the second duct when a portion of the first duct is inserted into a portion of the second duct, which means is carried by the portion of the first duct as set forth in claim 19.

The remaining claims depend from one of the above independent claims and are allowable for reasons provided above as well as for containing subject matter not disclosed or suggested in Beyer.

Rejections under 35 U.S.C. §103:

Claims 15, 27 and 28 were rejected under 35 U.S.C. §103 as being unpatentable over Joslin. Applicant requests withdrawal of this rejection.

Regarding independent claim 27, Joslin does not disclose or suggest a duct joining system having a first duct including a “member” disposed on an exterior surface thereof and a second duct including a groove extending outward about a cross section thereof, so that when said first duct is inserted into said second duct and said member is in said groove a seal and a resistance to a separation of said first duct and said second duct greater than a resistance to the insertion of said first duct into said second duct is provided by said member and said groove. First, Joslin does not provide a member on a first duct for insertion into a second duct. Joslin’s liquid lubricant is not a member. Second, Joslin’s liquid lubricant does not provide different separation and insertion resistances. Further, Joslin does not provide a second duct including a groove extending outward so that when the first duct is inserted into the second duct and the member is in the groove a seal and a resistance to a separation is provided. Joslin does not have such a groove or a groove for receiving such a member.

Regarding claims 15 and 28, since Joslin does not disclose or suggest the invention as claimed in the independent claims from which claims 15 and 28 depend for reasons provided above, Joslin does not render these claim unpatentable and further discussion of this rejection is believe unnecessary at the present time.

Claims 15, 27, 28, 34, 35 and 37 were rejected under 35 U.S.C. §103 as being unpatentable over Beyer.

Regarding independent claim 27, Beyer does not disclose a second duct including a groove as set forth in claim 27. Further, Beyer does not disclose that gasket 15 provides a duct separation resistance that is different from the duct joining resistance or that gasket 15 and a groove provides such a separation resistance. There also is no motivation founded in Beyer that would suggest to one to modify gasket 15 and provide a groove to provide a separation resistance greater than the joining resistance as set forth in applicant’s claim.

Since Beyer does not disclose or suggest the invention as claimed in the independent

claims from which claims 15, 28, 34, 35 and 37 depend for reasons provided above, Joslin does not render these claims unpatentable and further discussion of this rejection is believed unnecessary at the present time.

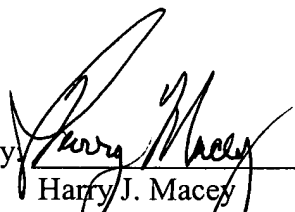
Claims 24 and 26 were rejected under 35 U.S.C. §103 as being unpatentable over Silverman. et al. Since Silverman et al. does not disclose or suggest the invention as claimed in the independent claims from which these claims depend, Joslin does not render these claims unpatentable and further discussion of this rejection is believed unnecessary at the present time.

Applicant submits that the pending claims are now in condition for allowance respectfully request the issuance of a formal Notice of Allowance at an early date. If the Examiner maintains any of the foregoing rejections, Applicants request that the Examiner clearly point to specific examples in the cited references that support any rejection so maintained. If a telephone interview would advance prosecution of the application, the Examiner is invited to telephone the undersigned at the number provided below.

In the unlikely event that the transmittal letter is separated from this document and/or the Patent Office determines that an extension and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due, including additional claims fees, in connection with the filing of this document to Deposit Account No. 50-1947 referencing Attorney Docket No. PEG-2001CP1.

Respectfully submitted,

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